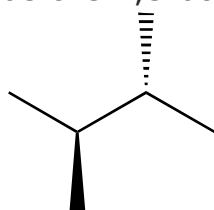
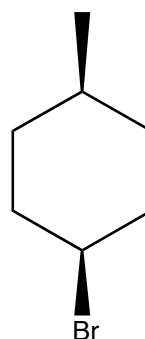
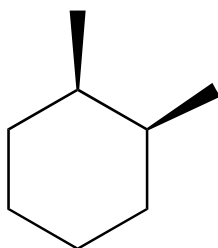
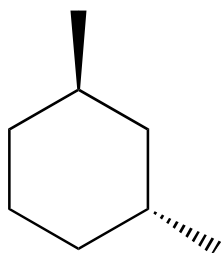


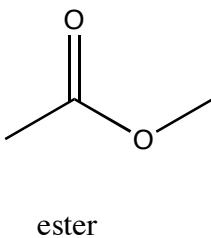
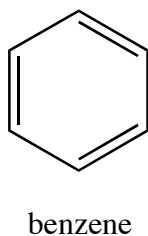
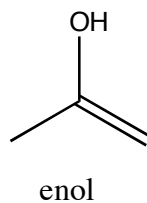
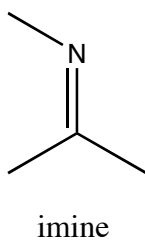
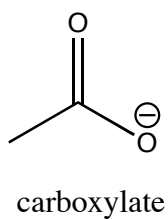
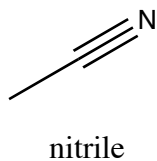
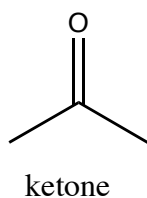
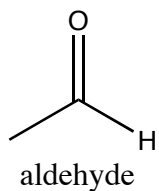
Draw Newman Projections of 2,3-dimethylbutane. Start with the staggered conformation drawn and rotate the 2,3 bond 60° . Draw all the conformations this way. Sketch the reaction coordinate diagram as the 2,3 bond is rotated. Label each point along the diagram.



Draw the following molecules in both chair conformations. Circle the most stable:

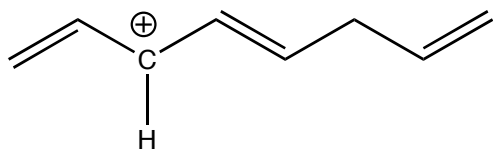


Draw resonance structures of these common functional groups:

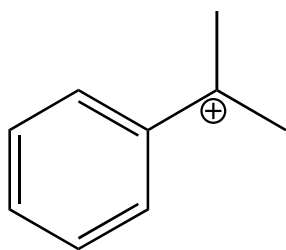


The resonance structure of the carbonyl ($\text{C}=\text{O}$) of a ketone and the carbonyl of an ester both have a positively charged carbon in it. Which one is more likely to be attacked by a negatively charged molecule?

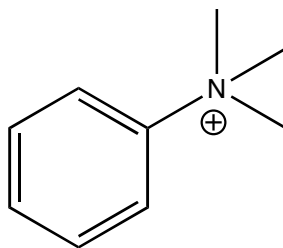
Draw resonance structures of the following carbocation (positively charged carbon).



Explain why cation A is resonance stabilized and cation B is not resonance stabilized. For practice, draw the resonance structures for cation A.



Cation A



Cation B